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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/802,590	03/09/2001	John H. Santhoff	021-04	6109

44279 7590 12/30/2004

PULSE-LINK, INC.  
1969 KELLOGG AVENUE  
CARLSBAD, CA 92008

EXAMINER
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BURD, KEVIN MICHAEL

ART UNIT	PAPER NUMBER
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2631

DATE MAILED: 12/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/802,590	<b>Applicant(s)</b> SANTHOFF ET AL.	
	<b>Examiner</b> Kevin M. Burd	<b>Art Unit</b> 2631	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 21 December 2004.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11 and 12 is/are allowed.
- 6) ☒ Claim(s) 1,3-7,9 and 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. This office action, in response to the request for continued examination and the amendment filed 10/25/2004, is a non-final office action.

***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/25/2004 has been entered.

***Response to Arguments***

3. Applicant's arguments, see remarks, filed 10/25/2004, with respect to the rejections of claims 1, 3-7, 9 and 10 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, new grounds of rejection are made in view of Fullerton (US 5,832,035) and Hutch (3,961,203).

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2631

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 5 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Fullerton (US 5,832,035).

Regarding claims 5 and 10, Fullerton discloses a method and system for encoding and decoding an ultra-wideband transmission. The ultra-wideband communication occurs in an impulse radio receiver (column 2, lines 29-31). Impulse radio transmitters emit short monocycle pulses with a tightly controlled average pulse-to-pulse interval (column 4, lines 59-61). Impulse radio systems use pulse position modulation with the pulse-to-pulse interval being varied on a pulse-by-pulse basis (column 4, line 66 to column 5, line 1). Impulse radio systems use pulse trains, not signal pulses for communications (column 5, lines 61-63). Figure 2A shows the bi-polar pulse pair including a positive pulse and a negative pulse. Both of these pulses have the same amplitude and pulse width. The positive pulse is positioned in "a positive timing window" and the negative pulse is positioned in "a negative timing window". Both of the pulses are disposed in a frame i.e. the pulse-to-pulse interval (column 12, lines 9-11).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3, 4, 6, 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fullerton (US 5,832,035) in view of Hutch (US 3,961,203).

Regarding claims 1 and 9, Fullerton discloses a method and system for encoding and decoding an ultra-wideband transmission. The ultra-wideband communication occurs in an impulse radio receiver (column 2, lines 29-31). Impulse radio transmitters emit short monocycle pulses with a tightly controlled average pulse-to-pulse interval (column 4, lines 59-61). Impulse radio systems use pulse position modulation with the pulse-to-pulse interval being varied on a pulse-by-pulse basis (column 4, line 66 to column 5, line 1). Impulse radio systems use pulse trains, not signal pulses for communications (column 5, lines 61-63). Figure 2A shows the bi-polar pulse pair including a positive pulse and a negative pulse. Both of these pulses have the same amplitude and pulse width. The positive pulse is positioned in "a positive timing window" and the negative pulse is positioned in "a negative timing window". Both of the pulses are disposed in a frame i.e. the pulse-to-pulse interval (column 12, lines 9-11). Fullerton does not disclose before receiving the complete pulse train, correlating the received positive pulse with the received negative pulse to determine whether an error has occurred in the transmission.

Hutch discloses correlating the received positive pulse with the received negative pulse to determine whether an error has occurred in the transmission before an entire transmission has been received (abstract). It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the teachings of Hutch

into the transmission system of Fullerton. By correlating the pulse pair, errors in the transmission can be detected quickly and new data can be sent if necessary.

Regarding claim 3, the combination transmits data.

Regarding claim 4, the positive and negative pulses are placed in time slots as shown in figure 12.

Regarding claim 6, Fullerton discloses transmitting a pulse train as stated above in paragraph 4. Fullerton does not disclose before receiving the complete pulse train, correlating the received positive pulse with the received negative pulse to determine whether an error has occurred in the transmission.

Hutch discloses correlating the received positive pulse with the received negative pulse to determine whether an error has occurred in the transmission before an entire transmission has been received (abstract). It would have been obvious for one of ordinary skill in the art at the time of the invention to incorporate the teachings of Hutch into the transmission system of Fullerton. By correlating the pulse pair, errors in the transmission can be detected quickly and new data can be sent if necessary.

Regarding claim 7, Hutch discloses calculating correlation errors in the transmission. If an error occurs, a retransmission is requested.

#### ***Allowable Subject Matter***


6. Claims 11 and 12 are allowed.

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Thursday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on (571) 272-3021. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Kevin M. Burd  
12/27/2004

KEVIN BURD  
PRIMARY EXAMINER